

**1. CLOSURE OF DESIGNATED WASTE
STORAGE AREA OPERATED UNDER AUTHORIZATION OR RCRA INTERIM
STATUS PART A PERMIT**

The Union Switch & Signal Division operated a Hazardous Waste Storage Facility under RCRA interim Status Part A Authorization.

Union Switch and Signal Division submitted it's Storage Facility Closure Plans to the Pennsylvania Department of Environmental Resources (PA DER) in October, 1985. (ref. Exhibit 1.1).

On February 24, 1987 the PA DER informed U.S.&S. by letter (ref. Exhibit 1.2) that the closure plan had been approved. The Union Switch & Signal Division in turn notified Mr. Charles Duritsa, Regional Manager, Bureau of Waste Management, PA DER on June 4, 1987 (ref. Exhibit 1.3) of it's plan to permanently close it's Storage Facility effective July 1, 1987.

At that time, Union Switch & Signal Division began to decommission the Storage Facility and associated equipment, according to the approved closure plan. Closure of the facility occurred in three phases:

1. Discontinuation of delivery of all waste to the Storage Facility by June 1, 1987.
2. Removal of all waste inventory and offsite disposal of same in accordance with all applicable regulations by July 1, 1987.
3. Decommissioning of Facility and equipment by October 1, 1987.

After decommissioning of the Storage facility, analysis of the rinsate used in the pressure washing of the facility's surface indicated all levels were within PA DER specified limits except Total Organic Halogens (TOX) levels which were in excess of those set forth in the conditions noted in the PA DER February 24, 1987 approval letter. Union Switch & Signal Division believed these levels were unrelated to facility operations and petitioned the PA DER for modification to the conditions of the Closure Plan (ref. Exhibit 1.4 U.S.&S. letter October 19, 1987).

This request to modify the Closure Plan was first approved verbally by John Haluszcak of the PA DER on October 19, 1987. Mr. Haluszcak then requested the above referred letter (1.4) be filed with the Pittsburgh Office of the PA DER. Responding to the U.S.&S. October 19, 1987 letter, the PA DER provided us with a formal approval letter (ref. Exhibit 1.5 PA DER letter).

The Storage Facility was permanently closed October 30, 1987 in accordance with the PA DER approved Closure Plan.

After receipt of the PA DER letter, Union Switch & Signal Division filed the appropriate Owner or Operator Certificate Of Closure, the Professional Engineers Certificate of Closure, and the rinsate analytical results (Ref. Exhibit 1.6 Union Switch & Signal Division letter).

On December 7, 1987 John A. Haluszcak, Manuel May and Fred Siekkinen of the PA DER visited the plant. The purpose of their visit was to inspect the Hazardous Waste Storage Facility and to perform a facilities inspection. As can be seen in the follow up letters of Mr. Haluszcak and Mr. Siekkinen (Ref. Exhibit 1.7 & 1.8) no violations were observed.

CLOSURE COMPLETION CERTIFICATION FORM

Exhibit 1.1

Closure of the hazardous waste storage facility operated under status authority (PAD 000001115) has been performed in accordance with the closure plan dated October 1985, prepared by Union Switch and Signal Division and as approved by the Pennsylvania Department of Environmental Resources.

Michael A. Barbara, Manager
Hazardous Waste and Environmental
Studies Group
Professional Engineer 033008-E
Fred C. Hart Associates
New York, New York

Marcel D. Tourdot, Manager
Safety, Security and Environment
Union Switch and Signal Division
American Standard Inc.
1789 South Braddock Avenue
Swissvale, PA 15218

Storage Facility Closure Plan

E.P.A. ID PAD 000001115

Union Switch and Signal Division

American Standard Inc.

1789 South Braddock Avenue

Swissvale, PA 15218

Prepared by: Marcel David Tourdot

Manager, Safety, Security
and Environment

Reviewed by: Fred C. Hart Associates

Michael A. Barbara, Manager
Hazardous Waste and Environmental
Studies Group

P. E. 033008-E

October, 1985

All the data set forth in Section Number 2 and 3 of the enclosed Closure Plan is submitted under a claim of business confidentiality because its disclosure, in whole or in part, in such way to reveal its source may reasonably be expected to have an adverse competitive impact. In this connection, it is hereby requested that the Union Switch and Signal Division be immediately informed in the event that the Pennsylvania Department Environmental Research should receive any request for disclosure of any of the data or its source.

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INTRODUCTION

Union Switch and Signal Division (USSD) has been operating its on-site hazardous waste storage facility under RCRA Interim Status Part A authorization. USSD submitted to Pennsylvania Department of Environmental Resources on August 29, 1983 its RCRA Part B application and full supporting documentation as prepared by the independent consulting firm of Fred C. Hart Associates (with offices in Pittsburgh, PA and New York, NY). To date, USSD submitted to Pennsylvania Department of Environmental Resources an addendum to said application on June 29, 1984. Pennsylvania Department of Environmental Resources has not indicated any outstanding deficiencies with the Part B application. However, rather than await Part B approval, USSD has elected to close its hazardous waste storage facility. Any hazardous waste generated thereafter will be handled within a 90-day turn around allowing USSD to operate under a Generator status only.

The Closure Plan which follows herewith is organized into seven sections that describe the general physical and environmental setting of the plant and its waste storage area; routine waste generation and handling procedures; and lastly, procedures to be implemented to effectuate closure of the storage area.

1.0 FACILITY DESCRIPTION

This section provides information on the location, operation, and administration of the Union Switch and Signal Division. It is presented in accordance with 40 CFR Section 122.25(a)(1),(10),(11), and (19) and PADER 75.265 (z)(18)(i), (ii) and (21)(ii) and (iii) where applicable.

1.1 Business Description

The Union Switch and Signal Division (USSD) American Standard Inc. is a major producer of various electrical and mechanical components used in railroad signaling and control systems.

American Standard Inc. is the parent company of USSD. The business addresses of both of these organizations and the contacts for environmental policy are shown below:

Union Switch and Signal Division
Marcel D. Tourdot, Manager, Safety, Security
and Environment
1789 South Braddock Avenue
Swissvale, PA 15218

American Standard Inc.
Lenore H. Schupak, Director Environmental Technology
40 West 40th Street
New York, New York 10018

1.2 Location Information

This subsection contains information on the USSD site in Swissvale, PA, and on the area surrounding the facility. It includes topographic information, a wind rose, data on roads and easements.

The topography of the area is best described as a plateau, with the facility constructed on a flat area well above the main parking lot and the Penn Lincoln Parkway. No topographic features interfere with the sound management of hazardous wastes. The generalized geology of the area is the Conemaugh Group. Neither USSD nor others in the surrounding area use the ground water as a source of supply.

1.2.1 Wind Rose

Figure 2 is a wind rose, showing the prevailing wind direction and wind intensities. As shown, the winds are most frequently observed from the west.

1.2.2 Flood Plain

The USSD facility is not in the 100 year flood plain of any rivers or streams. A letter from the Army Corps of Engineers verifying that the facility is not in a 100-year flood plain is available in USSD files.

1.2.3 Roads

A number of internal roads are present inside the boundary of the facility. The roads are used for transporting raw materials into the facility and carrying finished products out, and for the intrafacility transfer of equipment, materials, and wastes.

1.2.4 Road Construction

All roads in the facility are capable of withstanding the infrequent stress caused by vehicles transporting hazardous wastes. The internal paved roads of the facility are designed to withstand travel of large trucks, such as 18-wheelers or large flatbeds, at low speeds. Trucks bearing loads much heavier than the 80 drums of waste carried by the hazardous waste transporter routinely travel over the roads with no difficulty, indicating that the load-bearing capacity is satisfactory for the movement of hazardous waste. Regular road repair promotes the integrity of the paved surfaces. Unpaved surfaces are designed for low-speed travel of light duty vehicles, such as pickup trucks, automobiles, forklift trucks, and small trucks. Occasional use by much larger vehicles occurs with no detrimental impact.

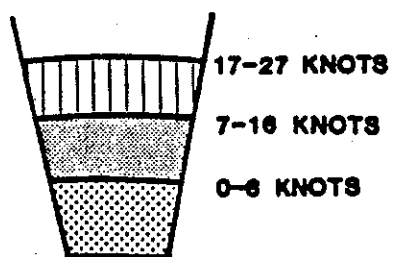
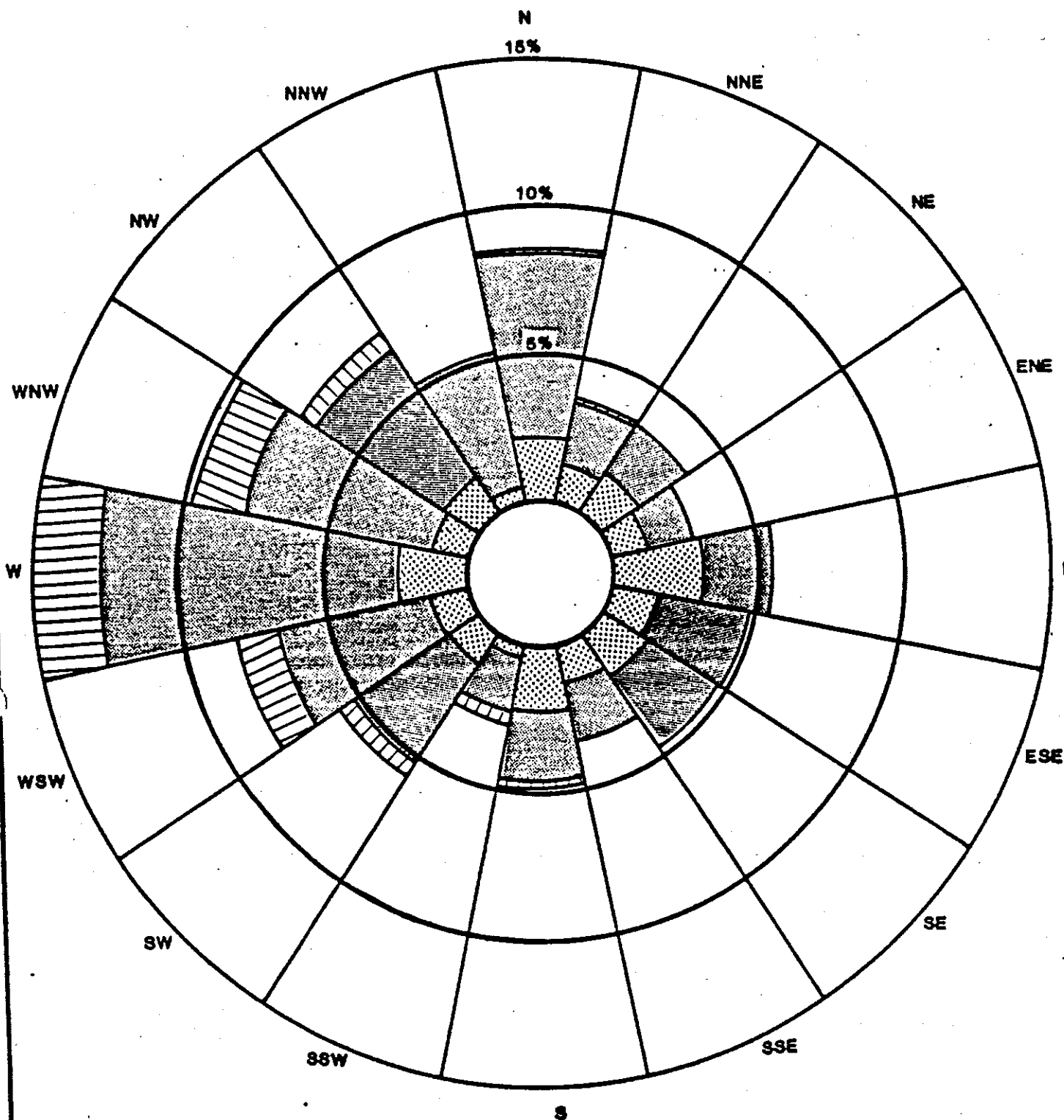


FIGURE -2
WIND ROSE FOR
PITTSBURG AIRPORT

FRED C. HART ASSOCIATES, INC.

1.2.5 Traffic Patterns

The facility has three entrances, only one of which is used for the transportation of hazardous wastes. The Edgewood gate at the eastern edge of the facility is locked at all times, and is only opened in emergencies. The lower gate, off Braddock Avenue, is locked except during shift changes and lunch hours. The main gate at the southeast end of the facility is manned by security personnel 24 hours a day, seven days a week. This is the only gate through which vehicles carrying hazardous waste may pass.

The route followed by the waste hauler is shown on the facility plan map shown in Figure 3. Trucks from the contracted waste hauler, Frontier Chemical, enter the compound through the Braddock Avenue gate and proceed under the overpass between Buildings 28 and 2 (Frontier Chemical is located approximately 175 miles north of the Swissvale plant). Trucks continue on the two-way asphalt road in front of Building 2 to the road perpendicularly intersecting a concrete road at Building 3. After a left turn onto the concrete road trucks proceed several hundred feet until they are conveniently located at the loading dock in front of Building 14. There, the trucks are maneuvered into a loading position with the rear of the trucks in contact with the dock. After loading and verifying the manifests trucks exit the facility via the same route.

Drummed wastes are delivered to the truck on pallets from the storage area by a forklift. Forklifts arrive at the trucks after following the finished gravel path outside the storage area around Building 37, up a ramp and onto the loading dock.

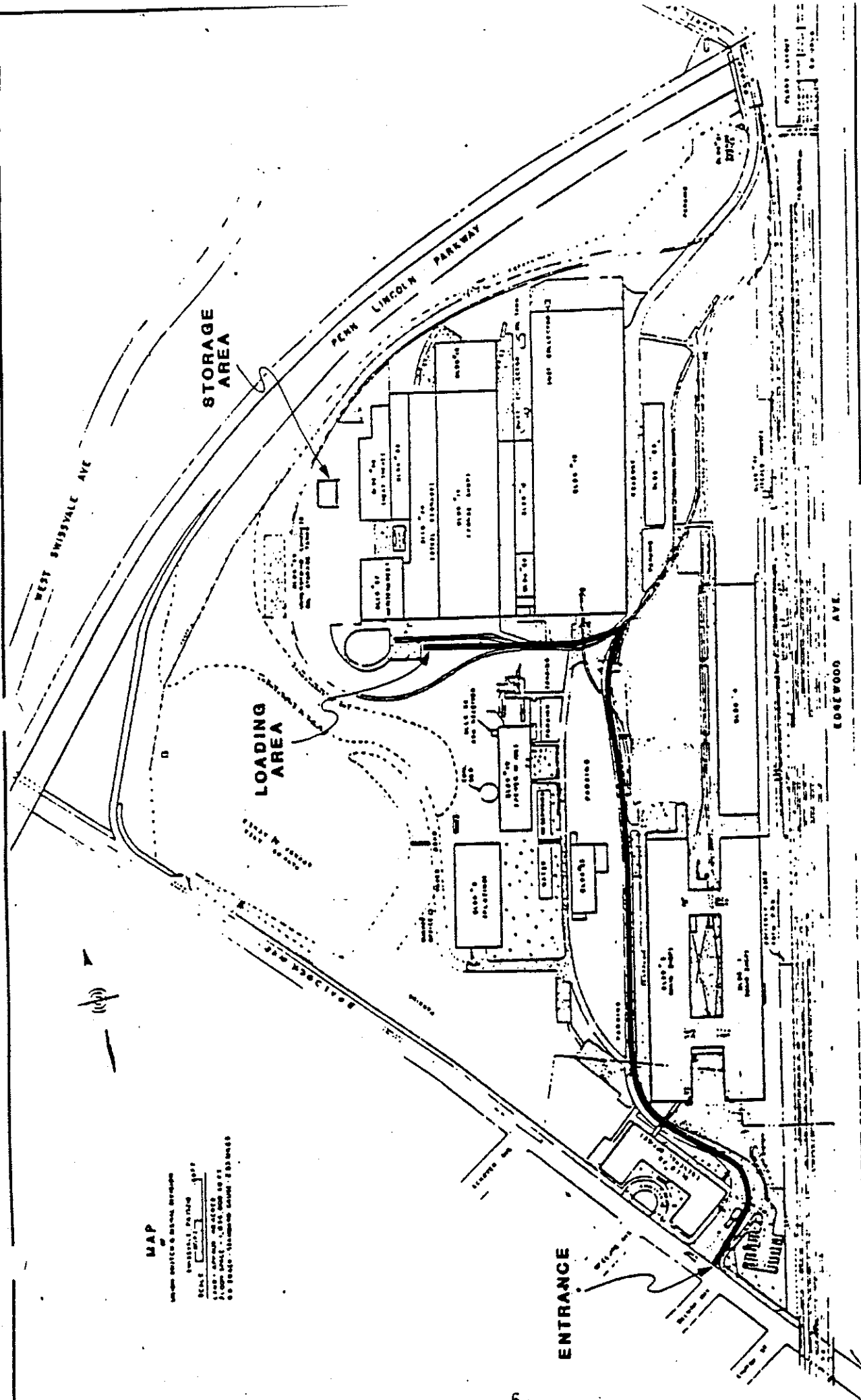


FIGURE 3

HAZARDOUS WASTE TRAFFIC ROUTE

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1.2.5 Traffic Patterns (continued)

Internal transportation of hazardous wastes is accomplished by forklift and is supervised by the environmental coordinator. Wastes may be moved from the treatment plant in Building 9 to the staging area in Building 19 via the lightly travelled cinder surface between the two buildings. Wastes may also be transported to Building 19 from other Buildings, such as 56, 4 and 8. Although these routes are longer than that between Building 9 and 19, they are over well-maintained roads and thorough supervision combined with extensive safety measures minimize the possibility of a spill during transit. From Building 19 processed drums, are moved by forklift to the storage area. The path is a large wide cinder pathway, away from the main traffic flow of the facility. Drums that do not require processing may be moved from their place of origin directly to the storage area. The path followed for these movements depends on the origin, but is always as direct as possible.

Traffic volume on the facility roads is low. Employees may park personal vehicles within the facility boundaries, but traffic from these vehicles is minimal during operating hours. Most personal vehicles are parked in the lower lot. Truck traffic is limited to material delivery and product shipments and does not interfere with intra-facility hazardous waste movements.

1.2.6 Location of Easements

The two maps included as Figures 4a and 4b show the boundaries of the facility and the roads in the area around the facilities. As shown, the facility is located partly in Swissvale and partly in Edgewood.

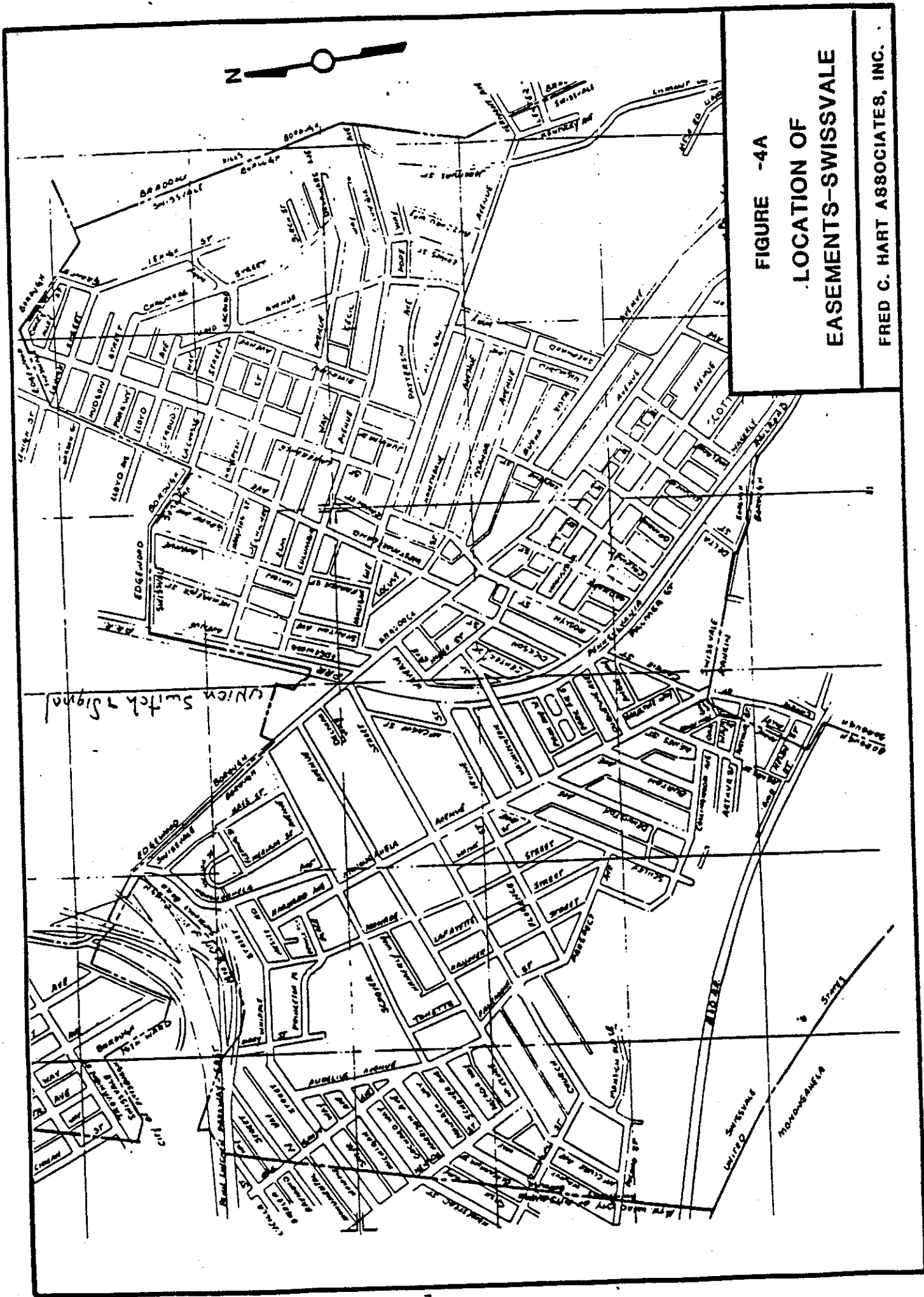
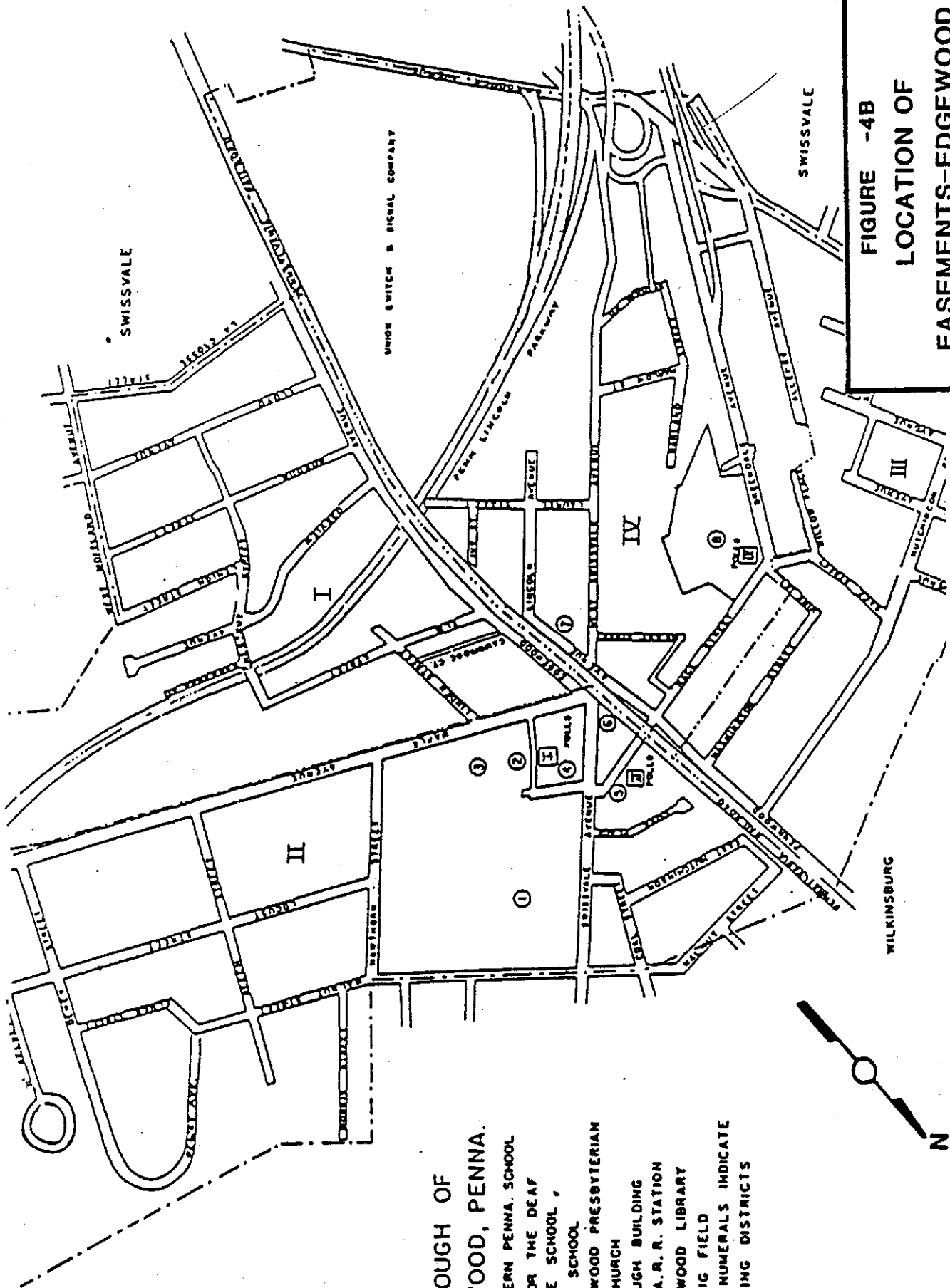


FIGURE -4A

LOCATION OF
EASEMENTS-SWISSVALE

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BOROUGH OF EDGEWOOD, PENNA.

- ① WESTERN PENNA. SCHOOL
FOR THE DEAF
 - ② GRADE SCHOOL
 - ③ HIGH SCHOOL
 - ④ EDGEWOOD PRESBYTERIAN
CHURCH
 - ⑤ BOROUGH BUILDING
 - ⑥ PENNA. R. R. STATION
 - ⑦ EDGEWOOD LIBRARY
 - ⑧ KOENIG FIELD
- ROMAN NUMERALS INDICATE
VOTING DISTRICTS

FIGURE -4B
LOCATION OF
EASEMENTS-EDGEWOOD
FRED C. HART ASSOCIATES, INC.

2.0 OPERATIONS DESCRIPTION

This section describes the production processes at USSD that generate hazardous wastes, the water treatment plant, and the waste storage facility. Included are descriptions of waste types, volumes and where applicable, design specifications. Also included is a brief description of operating practices with respect to nonhazardous wastes.

2.1 Waste Generating Operations

Hazardous wastes are generated at several buildings at USSD in the fabrication of marketable products. The operations and the wastes generated are described below.

2.1.1 Painting

Many of USSD's products require painting prior to shipment. This painting usually occurs in one of the three spray booths in Building 4, although the Building 10 complex and annex also contain some painting areas.

Spray booth overspray may contact the walls of the booths, or become entrained in the water curtain. Any paint that contacts the wall can be removed by peeling the sheet of replaceable "Pell-filmite" material, from the wall. Any paint captured in the water curtain accumulates in a 600 gallon tank at the base of the booth. "Clairivant", a commercial flocculent, is added to precipitate paint suspended from the water and allow clarified water to be recycled and reused. The flocculated waste material precipitates as a sludge, and upon removal from the tank is typically placed in DOT-approved steel 55-gallon drums with the wall and floor scrapings. Consistent with drum handling procedures around the plant, the drum is sealed with a gasketed lid and bolted ring, labelled, and sent for processing or to the storage area. This material is considered hazardous due to its toxicity characteristic.

2.1.1 Painting (continued)

Laboratory results reveal that the paint sludge may contain lead in excess of allowable amounts. Each tank cleanout results in an estimated six drums of wastes, or 30 drums per year.

A second waste stream from the painting operations results from waste paints, including paint residues and spray gun cleanings. These material are also placed in closed drums, which are opened only to add more wastes. They are considered hazardous based on their EP toxic lead content. They may also be ignitable if excess xylene is used as a thinner. Laboratory analyses reveal that the flash point is near the threshold for consideration as an ignitable waste. Approximately two 55-gallon drums may be generated annually.

The third waste stream from painting operations includes paint spray make up air and discharge air filters. These filters are replaced as required with waste filters placed in drums and processed as hazardous waste. They are considered hazardous due to toxic characteristics. Laboratory results reveal that the ventilation filters contain levels of lead and chromium near or above the toxic threshold levels. This waste stream results in the production of approximately four drums of waste per year.

2.1.2 Plating

Plating operations occur in Building 8. The plated parts are used in various electrical and mechanical components of railroad signalling and control systems. Among the materials plated are steel, aluminum, brass, copper, bronze, and castings. The detailed plated parts are used in electrical relays and other types of electric and electronic devices, while the mechanical parts are used in electro-mechanical, electro-pneumatic, and general mechanical devices for the control of

2.1.2 Plating (continued)

railroad and rapid transit systems.

The plating operations consist of three parts, as shown below.

- ° cleaning
- ° electroplating
- ° anodizing

Cleaning is performed to prepare parts for plating. Alkaline base cleaners are used in conjunction with sulfuric and muriatic acids for cleaning and pickling. A vapor degreaser containing trichloroethylene is used as a degreasing agent.

Several types of electroplating are practiced with different bath contents. The contents of each are shown below.

<u>Bath</u>	<u>Contents</u>
Cad	Cad balls, sodium cyanide, caustic soda, brightener
Copper	Copper, caustic soda, sodium cyanide
Tin	Copper, caustic soda, sodium cyanide
Zinc	Zinc, brightener, sodium cyanide, caustic
Hard Chrome	Chromic acid, sulfuric acid

Aluminum anodizing is the third process operating in Building 8. The anodizing operation uses chromate dyes, alkaline cleaners, and acids.

As a result of the plating operations, hazardous wastes are generated. The wastes generated are shown below.

2.1.2 Plating (continued)

<u>Type</u>	<u>Characteristic</u>	<u>Estimated Amounts/Yr.</u>	<u>In-Plant Disposition</u>
Metal and cyanide contaminated rinse waters	Toxic	0.1 mgd	Treatment at rinse water treatment plant
Spent baths	Toxic	Variable*	Rinsewater treatment plant
Plating bath sludges	Toxic	16 drums/yr.	Drummed and processed for storage
Spent Trichloroethylene	Toxic	1000 gal/yr.	Drummed and processed for storage

*"Variable" means that it is not a regular practice of USSD to empty the plating baths.

2.1.3 Heat Treating

USSD's heat treating operations are located in Building 56. Heat treating is performed for a variety of purposes on a number of materials. The types of heat treats and the materials are shown below.

- ° Anneal - Ferrous, non-ferrous
- ° Normalize - Various carbon steels, alloy steels
- ° Austemper - Various carbon steels, low alloy steels, tool steels
- ° Stress Relief - Ferritic steels
- ° Case Hardening - Park carburizing, cyanidizing
- ° Induction hardening - Steel, cast iron

The heat treating processes result in two listed hazardous waste streams.

They are shown below.

<u>EPA NO</u>	<u>Description</u>	<u>Characteristics</u>	<u>Estimated Amounts/Yr.</u>
F011	Spent solutions from salt bath heat treating	Reactive, Toxic	40 30-gal
D000	Toxic Wastes (General)	Toxic	Included with above

2.1.4 Zinc Phosphating

Another potential source of hazardous waste at USSD is the zinc phosphating operations, which occur in Building 4 prior to painting. The zinc phosphating system is a five step process, with five different tanks. The five steps are shown below.

1. Alkaline degreaser
2. Rinse
3. Zinc Phosphating
4. Rinse
5. Zinc Chrome bath

Of these five tanks, only the zinc chrome bath may be considered hazardous due to high levels of hexavalent chrome. The bath is not emptied, with makeup solution added to maintain the correct concentrations. However, should the material spill, or should a small amount be inadvertently wasted, it would be managed as a hazardous waste.

2.1.5 Other Production Processes

A wide variety of other operations occur at the USSD facility that do not produce hazardous wastes. It is USSD's practice to notify Environmental Protection Agency, Pennsylvania Department Environmental Resources, and Frontier Chemical should a change in raw materials or production operations occur that results in the generation of a hazardous waste.

2.1.6 Water Treatment Operations

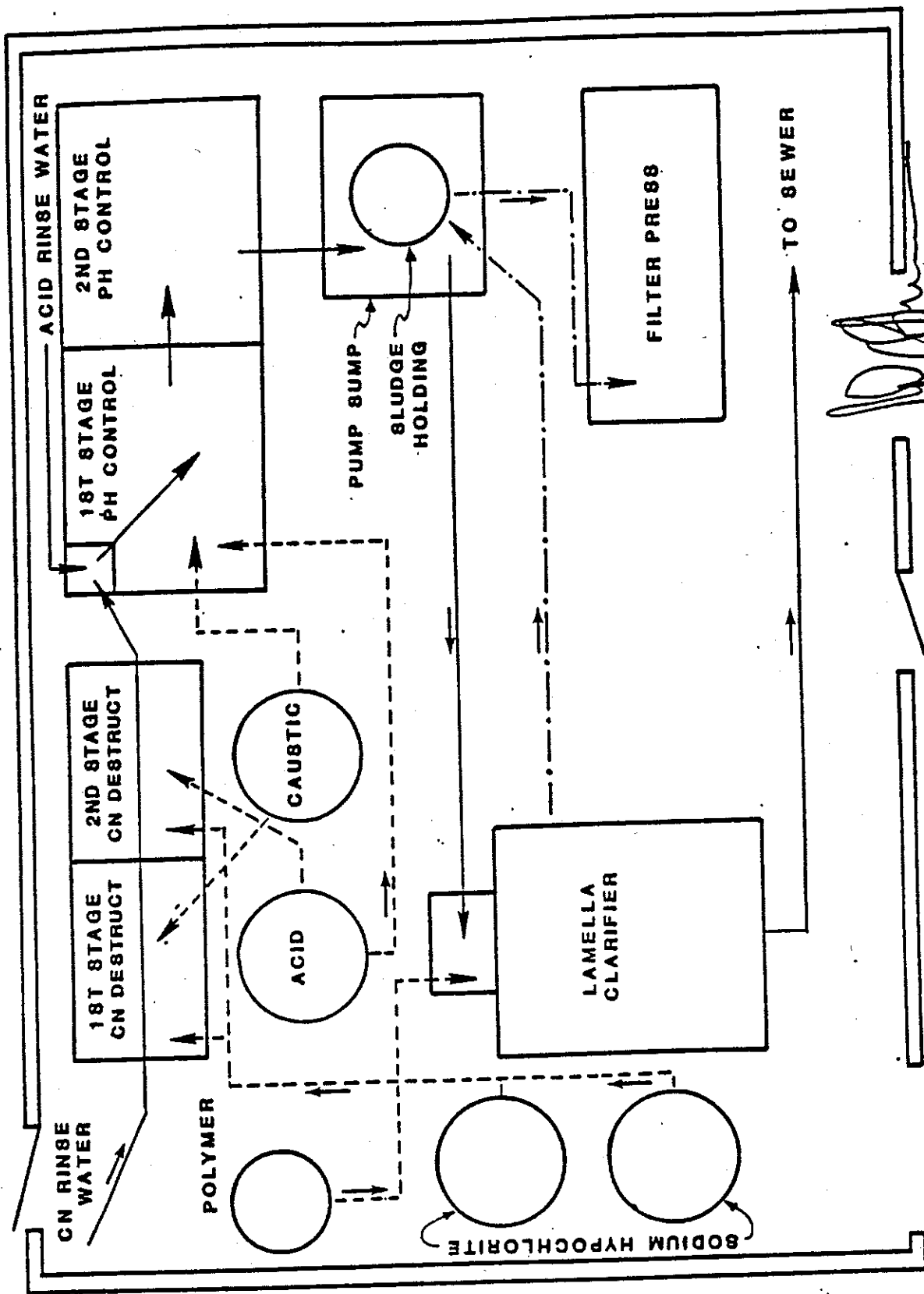
Building 9 is the water treatment plant for the rinse waters from the plating operations in Building 8 and for miscellaneous process liquids such as spent plating baths, and battery acids. A schematic of the system is shown in Figure 5. This system discharges to the Allegheny County Sanitary POTW and operates under guidance of the Environmental Protection Agency metal finishing categorical pretreatment regulations. Accordingly,

2.1.6 Water Treatment Operations (continued)

this water treatment system is not subject to RCRA regulations. However the following system descriptions provided for general informational purposes and to provide a general understanding of how wastes are generated at the final stage of the water treatment process. It might also be noted that the plant does not discharge to any surface or groundwater body and therefore is not subject to NPDES regulations.

The operations in Building 9 involve a two stage cyanide destruct system, pH control, and clarification followed by a sludge filter press. Drains from rinse tanks containing cyanide are connected to the CN destruct system, while all other drains lead to the pH adjustment tanks..

The CN drain system flows into the first stage of the CN destruct system where the pH is raised and sodium hypochlorite added to initiate the oxidation-reduction of the CN. The water then flows into the second stage of the CN destruct system where a high pH is maintained and additional sodium hypochlorite added, if required. From there, the water flows into a mixing chamber where it is blended with the outflow from the other floor drain system. It then flows into the first stage tank of the final pH adjustment systems where the pH is adjusted to pH 9 by the addition of acid or caustic, as required. Next, the water proceeds to the second stage of pH adjustment for additional retention time. From there, the flow is into the pump sump before progressing to the clarifier. From the pump sump, the water is pumped into the first stage of the clarifier where a polymer is added to induce flocculation. The water then flows through the clarifier chambers, where the suspended metals separate and settle to the bottom as sludge. The clean supernatant flows out of the top of the clarifier to the municipal sewer system. Periodically, the sludge is pumped from the bottom of the clarifier



MICHAEL A. BARBARA, PE PE-033008-E

NOT TO SCALE

FIGURE -6

RINSEWATER TREATMENT PLANT
WATER-CHEMICAL-SLUDGE SCHEMATIC

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2.1.6 Water Treatment Operations (continued)

to the sludge holding tank. When the sludge level reaches a predetermined level in the sludge holding tank, it is pumped to the filter press, where a dry cake is formed. This dry cake is then deposited in a ring-top 55-gallon drum and labeled as to content.

3.0 WASTE CHARACTERIZATION AND MATERIAL CONTAINERIZATION

This section describes the chemical and physical nature of the hazardous wastes stored at the Union Switch and Signal Division (USSD) facility and the waste analysis plan for sampling, testing, and evaluating the wastes to assure that sufficient information is available for their safe handling.

3.1 Chemical and Physical Analyses

Hazardous wastes are stored at the USSD facility at the drum storage area, located behind Building 56. All wastes are stored in sealed and properly labelled 55 or 30-gallon drums. The drums conform to the Department of Transportation Specifications D.O.T. 17H and D.O.T. 17C for storage and shipment of hazardous materials. The wastes can be grouped into the following general classifications:

- ° toxic
- ° reactive
- ° ignitable
- ° corrosive

The wastes generated and stored at the site by USSD are summarized in Table 1 and include the following:

3.1 Chemical and Physical Analyses (continued)

- ° Plating wastes (F006, F007, F008, F009) - are classified as hazardous due to their reactivity and toxicity. They are generated in the plating process in Building 8 and contain cyanide and metals.
- ° Metal heat treating wastes (F011) - are classified as hazardous due to their reactivity and toxicity. They are generated in Building 56 and contain cyanide.
- ° Reactive wastes (D003) - cyanide bearing wastes which can generate toxic gases, vapors or fumes when exposed to low pH conditions. They may be generated from plating operations in Building 8 or the heat treat operations in Building 56. This group includes powders resulting from splashes of the cyanide heat treatment solution.
- ° Spent zinc chromate baths (D007) - are classified as hazardous due to their EP toxicity based on their chromium content. The zinc chromate bath is found in Building 4.
- ° Paint wastes (D001,D007,D008) - are classified as hazardous due to their EP toxicity based on their lead or chromium content, and because they may be ignitable. This group includes waste paints, paint sludges, and contaminated air filters from the painting operations in Buildings 4 and 10.
- ° Halogenated solvents (F001) - spent halogenated solvents are listed as hazardous wastes due to their toxic characteristics. This group includes trichloroethylene used to degrease metal parts prior to plating in Building 8.

3.1 Chemical and Physical Analyses (continued)

- ° Ignitable wastes (D001) - wastes, such as waste paints that contain paint thinners are hazardous because they have a flash point of less than 60°C and contain less than 25% alcohol by volume. They are most commonly generated in Building 4, but may be generated at other locations in the plant.
- ° Corrosive wastes (D002) - wastes such as battery acid are hazardous because they have a pH less than or equal to 2 or greater than or equal to 12.5. Battery acids come from spent batteries from plant vehicles while other corrosive wastes may be generated at other locations in the plant.

Because USSD stores only those wastes generated on-site from processes monitored for production efficiency by plant personnel, the characteristics of the wastes are well-known. Furthermore, the composition of the wastes are not expected to change without the plant's knowledge beforehand, or without an indication that an unplanned and uneconomical mistake had occurred in the production process. Table 1 summarized the waste generated by USSD, and indicates the sources, the hazards, the typical composition based on laboratory results, and the estimated amount generated per year. The tests and procedures for determining changes in characteristics are described in the waste analysis plan.

USSD maintains all analytical data in the operating record and reports the lagtest analytical results on the sheets supplied by their contracted waste hauler, Frontier Chemical, or by the contracted laboratory. Reports on the know contents of the waste streams are included in the appendices.

CHARACTERISTICS OF WASTES GENERATED BY USSD

<u>Waste</u>	<u>Source</u>	<u>Hazard</u>	<u>Typical Composition</u>	<u>Estimated Amount Generated/Year</u>
<u>Waste</u>	<u>Source</u>	<u>Hazard</u>		
<u>Paint Wastes</u>				
◦ Paint Booth Sludge (D007)	Paint Booths	EP Toxic (Pb)	30% Paint Pigments 70% H ₂ O 21 ppm Pb	30 drums ¹
◦ Waste Paints (D007, D001)	Cleanup, leftover	Ignitable EP Toxic (Pb)	Flash Point 75°F (variable) 20 ppm Pb	8 drums
◦ Intake & Exhaust Filters (D007, D008)	Paint booths	EP Toxic (Cr, Pb)	Pb, Cr 5 ppm (variable)	4 drums
<u>Plating Wastes</u>				
◦ Filter Press Sludge (F006)	Treatment of plating rinsewaters	Toxic	75% H ₂ O with solids containing 80% Fe, 4% Ni, 4% Cd, 4% Zn, 4% Cu, 4% Cr	24 drums
◦ Spent Baths (F007)	Plating baths	Reactive, Toxic	Contain CN, metals	25 drums
◦ Spent Stripping Baths (F008)	Stripping baths	Reactive, Toxic	Contain CN, metals	
◦ Bath Sludges (F009)	Plating baths	Reactive	7% Cu, 8% NaCN, 5% NaOH, 80% Na ₂ CO ₃	1 drum
- Brass		Reactive	3% Zn, 7% Cu, 5% NaCN, 80% Na ₂ CO ₃	1 drum
- Cadmium		Reactive, Toxic	0.5% Cd, 6.5% CN, 3% NaOH, 90% Na ₂ CO ₃	
- Tin		Reactive	80% Sn, 20% NaOH	4 drums

TABLE 1 (CONTINUED)

CHARACTERISTICS OF WASTES GENERATED BY USSD

Waste	Source	H	Typical Composition	Estimated Amount Generated/Year
Waste	Source	Hazard		
<u>Metal Heat Treat Wastes</u>				
° Sodium Cyanide Salts (F011, D003)	Heat Treat Tank	Toxic, Reactive	10-15% NaCN	40 30 gallon drums
<u>Miscellaneous Wastes</u>				
° Zinc Chromate Solution (D007)	Metal Cleaning	EP Toxic (Cr)	800 ppm Cr	0 ²
° Battery Acids (D002)	Vehicles	Corrosive	H ₂ SO ₄	100 batteries
° Spent Trichloroethylene (F001)	Vapor Degreasing	Toxic	80% Trichlor 20% Oil & Grease	20 drums
<u>Off-Specification Products</u>				
° Acetone (U002)		Ignitable		1 drum
° Phenol (U188)		Toxic		1 drum
° Trichloroethylene (U228)		Toxic		1 drum
° Xylene (U239)		Ignitable		1 drum
° Methyl Ethyl Ketone (U159)		Ignitable, Toxic		1 drum
° Sodium Cyanide (P106)		Acute Hazard		1 drum

1 Drum is a 55-gallon container.

2 This bath has not been spent anytime in recent records. If it should be spent in the future, it would be emptied from the tank to a tank truck. No plans for this are anticipated.

3.2 Waste Analysis Plan - Routine Procedures

As stated above, the types and characteristics of the wastes generated and stored at USSD are well-known and understood. The objective of this waste analysis plan is to detail the tests required to determine or verify the characteristics of USSD's hazardous wastes in order to properly store the wastes routinely generated on-site. To accomplish this, the waste analysis plan includes a description of the test parameters for each waste stream, the rationale for choosing these parameters, the test methods used, the sampling methods used and the frequency of analysis.

The waste analysis plan is presented as a guide for personnel performing sampling and analysis of the streams. It describes the parameters for which the various waste streams may be tested, the recommended sampling procedures, the recommended sampling frequency, and the recommended analytical procedures to follow. Alternate, equivalent methods and procedures may be substituted.

3.3 Test Parameters

Table 2 outlines the waste parameters to be tested and the rationale for selecting each parameter. As shown in the table, listed wastes that may result from off-specification commercial products or the discarded commercial products are not tested because the properties of these materials required to determine proper standard operating procedures are well-known and are not expected to vary significantly without prior knowledge from the vendor. To date, no wastes in these categories have been at or transported from USSD's plant. They are addressed herein for comprehensiveness and because of the unlikely possibility that they may require storage as wastes in the future. The remaining wastes are tested for the properties that can vary and influence the choice of storage options.

3.3 Test Parameters (continued)

The recommended test methods for evaluating the parameters are shown in Table 3. Tests are generally performed by a contracted laboratory. The address of the most frequently used laboratory is shown below.

NUS Corporation.

NUS Corporation
Laboratory Services Division
5350 Campbells Run Road
Pittsburgh, PA 15205

No test parameters have been shown for confirming the compatibility of wastes with the containers. Operating experience has shown that the steel drums used by USSD are compatible with any of the wastes generated on-site and stored in the drums. Furthermore, data in the Chemical Engineer's Handbook indicates that only mineral acids significantly deteriorate steel drums, and no waste mineral acids are generated by USSD.

In order to ensure that wastes are not placed in reused drums containing residual materials that are incompatible, all drums are either filled with the contaminated form of the material originally stored in the drum, or triple-rinsed to remove any residual material prior to refilling with the generated waste. Rinse waters are treated in the treatment plant. Shop managers and foremen are under strict instructions to contact the environmental coordinator anytime a question concerning drum management arises.

TABLE 2

RATIONALE FOR TESTING WASTES

<u>Waste</u>	<u>Test Parameter</u>	<u>Rationale</u>
Spent Trichloroethylene	NT*	Listed Waste F001 (toxic)
Paint Wastes	EP Toxic (Pb, Cr)	Paint pigments are lead or chrome based
	Flash Point	Xylene (ignitable) used as paint thinner
Sodium Cyanide Salts	Cyanide, pH	Amount of CN determines disposal option
Filter Press Sludge	EP Toxic - Cd, Cr	Concentration of hazardous metals will vary depending on inputs and effects potential for resource recovery
	Other metals	
	Total Solids	Determines disposal options
Plating Bath Sludges	Cyanide, pH	Reactivity is determined by either parameter
	Metals	Effects resource recovery potential
Battery Acids	pH	Determines acceptability for disposal into the rinsewater treatment plant
Zinc Chromate Solution	pH	Determines storage option
	EP Toxic (Cr)	Hexavalent chromium may be present
Phenol	NT	Listed Waste U188 (toxic)
Trichloroethylene	NT	Listed Waste U228 (toxic)
Xylene	NT	Listed Waste U239(ignitable)
Methyl Ethyl Ketone	NT	Listed Waste U159 (toxic, ignitable)
Sodium Cyanide	NT	Listed Waste P106 (acutely hazardous)
Toxic Wastes (General)	NT	
Corrosive Wastes (General)	NT	

TABLE 2 (CONTINUED)
RATIONALE FOR TESTING WASTES

<u>Waste</u>	<u>Test Parameter</u>	<u>Rationale</u>
<u>Sump Contents</u>		
<u>Acids</u>	<u>pH</u>	<u>If pH of sump contents is less than pH rainwater, a leaking drum may have contaminated the runoff</u>
<u>Caustics & Cyanides</u>	<u>Cyanide, pH</u>	<u>CN indicates leaking drum, pH confirms it</u>
<u>Other</u>	<u>TOC, Cr, Pb,</u> <u>Oil and Grease</u>	<u>Presence of leaking drum</u>

★ NT = Not Tested

TABLE 3

*METHODS FOR TESTING HAZARDOUS WASTE STREAMS

<u>Parameter</u>	<u>Recommended Test Method</u>	<u>Reference</u>
pG	Electrometric	Test Methods for Evaluating Solid Waste. Physical/Chemical Methods USEPA SW-846
Flash Point (Liquids)	Pensky-Martens Closed Cup Tester	ASTM Standard D-93-79 or D-93-80
Flash Point (Solids)	Pensky-Martens Closed Cup Tester	Modified ASTM D-93-79 Ignitability by Friction Test
Free Liquids	Paint Filter	2/25/83, Federal Register (proposed)
Total Solids	Gravimetric	Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020 Method 335.2
Cyanide	Titrimetric	Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020 Method 8.55
Toxicity	Extraction Procedure	40 CFR 261, Appendix.II
Metals		
° Cadmium	Atomic Absorbtion	Test Methods for Evaluating Solid Waste. Physical/Chemical Methods, Method 8.53
° Chromium	Atomic Absorbtion	Test Methods for Evaluating Solid Waste. Physical/Chemical Methods, Method 8.54
° Lead	Atomic Absorbtion	Test Methods for Evaluating Solid Waste. Physical/Chemical Methods, Method 8.56

TABLE 3 (CONTINUED)

METHODS FOR TESTING HAZARDOUS WASTE STREAMS

<u>Parameter</u>	<u>Recommended Test Method</u>	<u>Reference</u>
TOC	Combustion or Oxidation	Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020 Method 415.1.
Oil and Grease	Infrared, Spectrophotometric	Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020 Method 413.2.

4.0 CLOSURE PERFORMANCE STANDARD

This closure plan for Union Switch and Signal Division storage facility has been developed to ensure that a systematic approach will be followed such that the facility used for hazardous waste storage will be suitably decommissioned to eliminate or minimize the need for further maintenance, or any threat to human health or the environment. Specific procedures to satisfy the closure performance standard are presented in detail in the following:

All closure procedures will be performed under the close supervision of the environmental coordinator. In his absence a foreman trained in proper hazardous waste management and fully informed of the closure activities will be responsible.

4.1 Procedure for Decommissioning of Storage Facility and Associated Equipment and Labor

Closure of the storage facility will occur in three phases:

- ° Discontinuation of delivery of wastes to the storage facility
- ° Removal of waste inventory
- ° Decommissioning of area and equipment

Shortly after the onset of the closure period, wastes will no longer be sent to the storage facility prior to shipment off-site. This discontinuation period is necessary to ensure that wastes will not be delivered to the site either during or after completion of the decommissioning procedures.

Upon delivery of the last drums of waste to the storage facility, the environmental coordinator will perform an inspection and inventory of each section of the storage area. The inspection will be performed to (1) verify the actual inventory is consistent with the records of reported waste quantities (2) confirm the integrity of all drums, labels, and pallets in preparation for inventory removal, (3) identify spills, leaks or cracks if any in the containment area. If spills or leaks are discovered, appropriate measures



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BUREAU OF WASTE MANAGEMENT Exhibit 1.2
Highland Building
121 South Highland Avenue
Pittsburgh, Pennsylvania 15206-3988
(412) 465-2900 (answers 24 hrs.)
645-7100

February 24, 1987

Union Switch & Signal Division
American Standard, Inc.
1789 South Braddock Avenue
Swissvale, PA 15218

Attention: Marcel David Tourdot, Manager
Safety, Security & Environment

RE: Closure Plan For Union Switch &
Signal Division
EPA I.D. No. PAD000001115
Swissvale
Allegheny County

Dear Mr. Tourdot:

The Closure Plan submitted in October, 1985 for the above referenced facility is hereby approved with the following conditions:

1. The mild solvent listed on Page 29 of the Plan in Section 4.1 would be replaced by water containing a detergent for the cleaning of the pad.
2. The rinsate collected after the pressure washing supplemented with scrubbing with a stiff broom will be analyzed as follows:
 - a. The volume of water in the sump will be reported.
 - b. The following parameters will be tested and the analysis methods will be used as specified with the detection limits as specified.

(Reference for the following methods is Publication
EPA-600/4-79-020, except total organic halogens.)

<u>Parameter</u>	<u>Method</u>	<u>Detection Level</u> (Report in tenths of a unit)
pH	150.1 (Electrometric)	
Cyanide	335.21 (Spectrophotometric deter- mination or 335.3 (Colormetric automated, UV)	At least 0.02 mg/l
Cadmium	2.13.1 (Atomic absorbtion - direct aspiration) - A pre- concentration should be used or Method 2.13.2 Atomic absorbtion furnace technique	Less than 0.002 mg/l
Chromium	218.1 (Atomic absorbtion - direct aspiration) 218.2 (Atomic absorbtion - furnace) 218.3 (Atomic absorbtion - Chelation, extraction)	Less than 0.01 mg/l
Lead	239.1 (Atomic absorbtion - direct aspiration with sample pre- concentration) 239.2 (Atomic absorbtion - furnace)	Less than 0.01 mg/l
Total Organic Carbon	415.1 (Combustion or oxidation)	If the detection limit is greater than 50 ppm the organic constitu- ents must be characterized.
Total Organic Halogens	EPA SW-846 Method 9020	If the detection limits are greater than 20 ppb the halogenated organic constituents must be characterized.

3. Based on the results of soil analyses previously submitted in your Closure Plan, soil sampling at closure will not be required.

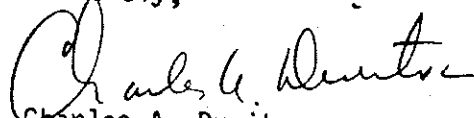
Union Switch & Signal Div.

-3-

February 24, 1987

I have enclosed copies of the certifications to be used by a professional engineer and owner/operator. If you have any other questions about this approval, please contact John Haluszczak at this office.

Sincerely,



Charles A. Duritsa
Regional Manager
Bureau of Waste Management
Southwestern Region

CAD/JAH/kld

Enclosures

cc: EPA
Central
Regional
Chron
County
Lenore H. Schupak

OWNER OR OPERATOR CERTIFICATION OF CLOSURE

The undersigned, _____, a (1) Corporation,
(Name of Owner or Operator)

_____ incorporated under the laws in the State of _____ and licensed to do business in
_____, Pennsylvania, or (2) _____,

_____ (Partnership, Individual, Municipality or Other Entity)
_____ its principal place of business at _____, which
(Address)

_____ formerly owned or operated a hazardous waste _____
(Description of Hazardous Waste Activity)

_____ hereinafter "Facility") known as _____ and
(Name of Hazardous Waste Facility)

_____ located at _____
(Location)

_____ County, Pennsylvania, has completed and permanently ceased the
_____ operation of the facility and has fully implemented all measures relating to the
_____ closure of the facility as set forth in the Closure Plan approved by the Pennsylvania
_____ Department of Environmental Resources for said facility.

NOW, THEREFORE, I (we) _____
(Name of Owner/Operator)

_____ do hereby swear and affirm that the above-named hazardous waste facility has been closed in
_____ accordance with the facility's Closure Plan approved in writing by the Department on
_____, 19____, that all measures relating to the closure of the facility required
_____ by the Closure Plan and the rules and regulations of the Department codified at 25 Pa. Code
_____ Chapter 75 have been fully implemented, and that to the best of my (our) knowledge, no
_____ conditions continue to exist that may have arisen prior to closure.

(Signature)

(Title)

(Address)

_____, sworn and subscribed before me, this
_____ day of _____ A.D. 19____

(Notary)

PROFESSIONAL ENGINEER CERTIFICATION OF CLOSURE

I, _____, a Professional Engineer registered
(Name)
pursuant to the Professional Engineers Registration Law, 63 P.S. §§148 et seq., hereby
certify that I have reviewed the Closure Plan for the _____ at
(Type of Facility)
_____, ("facility"), located
(Name of Hazardous Waste Facility)
at _____
(Location)

that I am familiar with the rules and regulations of the Pennsylvania Department of
Environmental Resources pertaining to closure of such facility, and that I personally have
made visual inspection(s) of the aforementioned facility, and that the closure of the
aforementioned facility has been performed in full and complete accordance with the
facility's closure plan approved in writing by the Department of Environmental Resources on
_____, 19____, and the rules and regulations of the Department
codified at 25 Pa. Code Chapter 75.

(Signature)

(Date)

(Professional Engineering License Number)

(Business Address)

(Seal)

(Telephone Number)

June 4, 1987

Exhibit 1.3

CERTIFIED MAIL

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management
Highland Building
121 South Highland Avenue
Pittsburgh, PA 15206-3988

Attention: Charles A. Duritsa
Regional Manager
Bureau of Waste Management
Southwestern Region

Dear Mr. Duritsa:

This letter is to notify you that the Union Switch & Signal Division American Standard Inc. E.P.A. ID NO. PAD 000001115 plans to permanently close its storage facility located at 1789 South Braddock Avenue, Swissvale, PA 15218 effective July 1, 1987. The closure will be conducted in accordance with our previously submitted (October, 1985) and approved (February 24, 1987) closure plan. All wastes from July 1, 1987 will be handled on a ninety (90) day basis from our staging area.

If you have any questions, please notify me at 244-3183.

Sincerely,



Marcel D. Tourdot
Manager, Safety, Security
and Environmental

MDT/cc

October 19, 1987 Exhibit 1.4

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management
Highland Building
121 South Highland Avenue
Pittsburgh, PA. 15206-3988

ATTENTION: Mr. Charles Durista
Regional Manager
Bureau of Waste Management
Southwest Region

RE: Closure Plan Modification
for Union Switch & Signal
E.P.A. I.D. No. PAD000001115

Dear Mr. Durista:

The approved October 1985 Closure Plan for the Union Switch & Signal Division E.P.A. I.D. No. PAD000001115 had listed under condition 2.b., Total Organic Halogen results, to be 20 ppb or less for acceptability. The analytical results on our rinsate for TOX proved to be 74 ppb and 57 ppb in the two samples that were taken.

I have spoken to Mr. John Haluszczak about these results and the possible reasons for them. He agrees that there could be a multitude of reasons beyond our control for the results to be in excess of 20 ppb. One possibility is the chlorination of the drinking water by Wilkesburg Penn Joint Water Authority. Another is the possibility of other trace halogens being present in the system being supplied to us by that same Water Authority.

I do not believe that these Halogen Levels were a result of anything the Union Switch & Signal did, but are a result of one or a combination of the possibilities I've previously mentioned. Therefore, I respectfully request a modification to the conditions listed in your February 24, 1987 Closure Plan Approval letter under 2.b. to include the TOX levels I've spoken of in this letter.

I thank you for your consideration in this matter and if I can be of any further assistance please notify me at 244-3183.

Sincerely,



M. D. Tourdot
Manager Safety, Security &
Environment

MDT/jba



COMMONWEALTH OF PENN
DEPARTMENT OF ENVIRONMENT

Exhibit 1.5

BUREAU OF WASTE MANAGEMEN
Highland Building
121 South Highland Avenue
Pittsburgh, Pennsylvania 15206-3988
(412) 645-7100 (answers 24 hrs.)

November 13, 1987

Union Switch & Signal
American Standard, Inc.
P.O. Box 420
Pittsburgh, PA 15230

Attention: M. D. Turdot, Manager
Safety, Security & Environment

RE: Closure Plan Modifications
Union Switch & Signal
EPA I.D. No. PAD000001115
Swissvale
Allegheny County


Dear Mr. Turdot:

The Department is in receipt of your request to modify the closure plan for the above referenced facility approved by the Department on February 24, 1987.

In your October 19, 1987 letter, you requested a modification of the acceptable levels for total organic halogen (TOX) approved originally at 20 ppb. Two samples taken to assure adequacy of closure decontaminate measures have resulted in levels reported at 57 ppb and 74 ppb. This letter is to inform you that the modification is acceptable to the Department for this parameter and these two samples to consider contamination complete. Please submit certification that closure has been completed as soon as possible so that we may conduct our final inspection of the facility.

If you have any further questions about this matter, please contact John Haluszczak of this office.

Sincerely,


Charles A. Duritsa
Regional Manager
Bureau of Waste Management
Southwestern Regional Office

CAD/JAH/ksw

cc: Regional
Central
Chron

November 9, 1987

Exhibit 1.6

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Waste Management
Highland Building - 121 South Highland Avenue
Pittsburgh, PA 15206-3988

Attention: Mr. Charles A. Duritsa, Regional Manager
Bureau of Waste Management
Southwestern Region

Reference: Closure plan for:
Union Switch & Signal Division
E.P.A. ID No. PAD 000001115
Swissvale, Pennsylvania

Dear Mr. Duritsa:

The Union Switch and Signal Division of American Standard Inc. is closing its Swissvale, Pennsylvania facility December 31, 1987. As you are aware we have submitted our storage facility closure plan, and received your February 24, 1987 approval of same.

Enclosed you will find the owner operator certification of closure, the professional engineer certification of closure, and the analytical results for the parameters listed on page two (2) of the Pennsylvania D.E.R. approval letter.

In accordance with your February 24, 1987 approval letter please be advised approximately forty gallons of rinsate were collected in the facility's sump from the pressure washing procedure. The rinsate will be disposed of in accordance with all applicable regulations.

I believe we have fulfilled our obligations set forth in your approval letter. We now await inspection by your office. Due to the fact that my final operating day at the Swissvale Facility is December 31, 1987, and that the holidays are fast approaching, I would respectfully request the earliest possible inspection date.

If I can be of further assistance in this matter, please do not hesitate to notify me.

Sincerely,



Marcel D. Tourdot
Manager, Safety, Security & Environment

MDT/cc

OWNER OR OPERATOR CERTIFICATION OF CLOSURE

Union Switch and Signal Division

The undersigned, American Standard Inc.

, a (1) Corporation,

(Name of Owner or Operator)

Incorporated under the laws in the State of Delaware and licensed to do business in Pennsylvania, or (2)

(Partnership, Individual, Municipality or Other Entity)

with its principal place of business at Corporate Headquarters, 40 W. 40th Street, New York, NY 10018, which

(Address)

formerly owned or operated a hazardous waste storage facility

(Description of Hazardous Waste Activity)

(hereinafter "Facility") known as USSD Storage Facility and

(Name of Hazardous Waste Facility)

located at 1789 South Braddock Avenue, Swissvale, PA 15218

(Location)

in Allegheny County, Pennsylvania, has completed and permanently ceased the active operation of the facility and has fully implemented all measures relating to the closure of the facility as set forth in the Closure Plan approved by the Pennsylvania Department of Environmental Resources for said facility.

NOW, THEREFORE, I (we) Union Switch and Signal Division American Standard Inc.

(Name of Owner/Operator)

hereby swear and affirm that the above-named hazardous waste facility has been closed in accordance with the facility's Closure Plan approved in writing by the Department on February 24, 1987, that all measures relating to the closure of the facility required by the Closure Plan and the rules and regulations of the Department codified at 25 Pa. Code Chapter 75 have been fully implemented, and that to the best of my (our) knowledge, no violations continue to exist that may have arisen prior to closure.



(Signature)

Vice President & Group Executive
Signaling & fluid Power Group

(Title)

5800 Corporate Drive
Pittsburgh, PA 15237

(Address)

Taken, sworn and subscribed before me, this
14TH day of NOVEMBER A.D. 1987



(Notary)

JOEL E. ELKAN, NOTARY PUBLIC
McCANDLESS TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES FEB. 27, 1989
Member, Pennsylvania Association of Notaries

PROFESSIONAL ENGINEER CERTIFICATION OF CLOSURE

I, Linda S. Paul, a Professional Engineer registered
(Name)

pursuant to the Professional Engineers Registration Law, 63 P.S. §5148 et seq., hereby
certify that I have reviewed the Closure Plan for the Waste Storage Pad at
(Type of Facility)

Union Switch and Signal ("facility"), located
(Name of Hazardous Waste Facility)
at Swissvale, Pennsylvania

(Location)

that I am familiar with the rules and regulations of the Pennsylvania Department of
Environmental Resources pertaining to closure of such facility, and that I personally have
made visual inspection(s) of the aforementioned facility, and that the closure of the
aforementioned facility has been performed in full and complete accordance with the
facility's closure plan approved in writing by the Department of Environmental Resources on
February 24, 19 87, and the rules and regulations of the Department
codified at 25 Pa. Code Chapter 75.

Linda S. Paul
(Signature)

November 13, 1987

(Date)

PE-032214-E

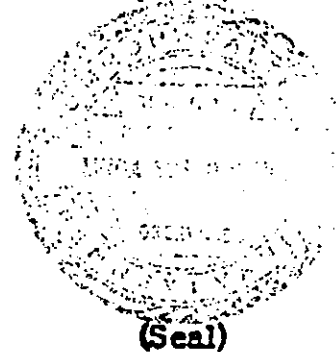
(Professional Engineering License Number)

Fred C. Hart Associates, Inc.
Penn Center West III - Suite 106
Pittsburgh, Pennsylvania 15276

(Business Address)

(412) 787-7144

(Telephone Number)



(Seal)

NOTE: Visual inspection indicated closure was conducted in accordance with
the approved plan. A detergent/solvent substitute was used in the
cleaning. TOX levels recorded in the rinsate samples collected after
closure exceeded 20 ppb (74 and 57 ppb). A request for modification
to the acceptable TOX levels by Union Switch and Signal was approved
by PADER in a letter dated 11/13/87 (attached).



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF WASTE MANAGEMENT
Highland Building
121 South Highland Avenue
Pittsburgh, Pennsylvania 15206-3988
(412) 645-7100 (answers 24 hrs.)

November 13, 1987

Union Switch & Signal
American Standard, Inc.
P.O. Box 420
Pittsburgh, PA 15230

Attention: M. D. Turdot, Manager
Safety, Security & Environment

RE: Closure Plan Modifications
Union Switch & Signal
EPA I.D. No. PAD000001115
Swissvale
Allegheny County


Dear Mr. Turdot:

The Department is in receipt of your request to modify the closure plan for the above referenced facility approved by the Department on February 24, 1987.

In your October 19, 1987 letter, you requested a modification of the acceptable levels for total organic halogen (TOX) approved originally at 20 ppb. Two samples taken to assure adequacy of closure decontaminate measures have resulted in levels reported at 57 ppb and 74 ppb. This letter is to inform you that the modification is acceptable to the Department for this parameter and these two samples to consider contamination complete. Please submit certification that closure has been completed as soon as possible so that we may conduct our final inspection of the facility.

If you have any further questions about this matter, please contact John Haluszczak of this office.

Sincerely,


Charles A. Duritsa
Regional Manager
Bureau of Waste Management
Southwestern Regional Office

CAD/JAH/ksw

cc: Regional
Central
Chron



Professional Service Industries, Inc.
Pittsburgh Testing Laboratory Division

850 Poplar Street
Pittsburgh, Pennsylvania 15220
412/922-4000

001

REPORT

Laboratory No. 890811
Client No. S82001-0

ORDER NO. PCH-530
DATE Oct. 7, 1987

Client : Union Switch & Signal
American Standard, Inc.
1789 South Braddock Avenue
Swissvale, PA 15218

Sample Description : Two (2) Jars of Water
Identified as "Hazardous Waste Pad" -
"A" and "B"

Submitted By : Client

Submitted To : PSI-Pittsburgh Testing Laboratory Division,
Chemical Department

Method of Test : EPA Methods: 150.1, 412.8, 213.1
218.1, 239.1, 415.1
SW-846-9020

Reported To : Union Switch & Signal
Attention: M. D. Tourdot

Determination	Results	
	A	B
pH	7.1	7.3
Cyanide, mg/l	<.01	<.01
Cadmium, mg/l	<.01	<.01
Chromium, mg/l	<.1	<.1
Lead, mg/l	.5	.2
TOC, mg/l	10.8	12.6
TOX, ug/l	74	57

Respectfully Submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
PITTSBURGH TESTING LABORATORY DIVISION

2-Client

ear

Memorandum

To: V. Srivastava

Date: October 30, 1987

From: W. S. Davis *WSD 10-30-87*
D. A. Wunderlich *DAW 10-30-87*

Subject: Analytical Results for Union Switch & Signal
Project No. 305301

IT Analytical Services (ITAS) has completed the analysis of the water sample received in our laboratory on October 22, 1987. Results are presented in the enclosed tables and were determined in accordance with recommended analytical procedures listed in the Method Reference.

Should you have any questions or require additional information, please contact us at the Pittsburgh Laboratory.

WS

TOTAL METALS ANALYSIS SUMMARY
FOR UNION SWITCH AND SIGNAL
PROJECT NO. 305301

SAMPLE IDENTIFICATION			
PARAMETER	UNITS ⁽¹⁾	USS-1	ANALYTICAL SPIKE PERCENT RECOVERY ⁽²⁾
Cadmium	mg/L	0.001/0.001 ⁽³⁾	100%
Chromium	mg/L	<0.005/<0.005	100%

(1) mg/L = milligrams per liter or parts per million.

(2) The spike was prepared after digestion but before analysis.

(3) The sample was digested and analyzed in duplicate.

METHODS REFERENCE
FOR UNION SWITCH AND SIGNAL
PROJECT NO. 305301

METHOD TITLE

REFERENCE

Acid Digestion of
Aqueous Samples and
Extracts for Total
Metals for Analysis
by Furnace Atomic
Absorption
Spectroscopy

Method 3020, Test Methods for Evaluating Solid
Waste, USEPA SW-846 3rd Ed., 1986.

Chromium, Graphite
Furnace

Method 218.2, Methods for the Chemical Analysis
of Water and Waste, United States Environmental
Protection Agency - 600/4-79-020, 1983 Revision.

Cadmium, Graphite
Furnace

Method 213.2, Methods for the Chemical Analysis
of Water and Waste, United States Environmental
Protection Agency - 600/4-79-020, 1983 Revision.



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

BUREAU OF WASTE MANAGEMENT
Highland Building
121 South Highland Avenue
Pittsburgh, Pennsylvania 15206-3988
(412) 645-7100 (answers 24 hrs.)

December 11, 1987

Union Switch & Signal/
American Standard, Inc.
1789 Braddock Avenue
Swissvale, PA 15218

Attention: Marcel Tourdot, Manager
Safety/Security/Environment

RE: RCRA Inspection
Union Switch & Signal
Allegheny County
PAD No. 000001115

Dear Mr. Tourdot:

An inspection of your facility was conducted on December 7, 1987, pursuant to the Pennsylvania Solid Waste Management Act, the Act of July 7, 1980, P.L. 380, No. 97, 35 P.S. §6018.101 et seq., and the Rules and Regulations promulgated thereunder. The requirements of this Act are being enforced by the Pennsylvania Department of Environmental Resources which has received primacy over hazardous waste activities by the United States Environmental Protection Agency.

No violations of the Minimum Standards for Hazardous Waste Facilities, as set forth in 25 Pa. Code, Section 75.262 and Section 75.265, were observed during this inspection. Enclosed for your records is a copy of the inspection report.

During the inspection, a Pennsylvania Manifest PAB4671166 and dated 10/7/87, needs to be tracked and confirmed. Would you please call this office upon your findings. Also, please note in a cover letter to this office when the last manifested waste leaves the site.

This letter does not waive, either expressly or by implication, the power or authority of the Commonwealth of Pennsylvania to prosecute for any and all violations of law arising prior to or after the issuance of this letter or the conditions upon which the letter is based, nor shall this letter be construed so as to waive or impair any rights of the Department of Environmental Resources, heretofore or hereafter existing.

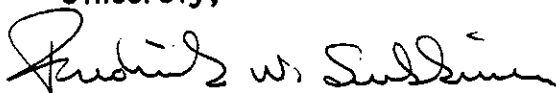
Union Switch & Signal/
American Standard, Inc.

- 2 -

December 11, 1987

This letter shall also not be construed as a final action of the
Department of Environmental Resources.

Sincerely,



Frederick W. Siekkinen
Solid Waste Specialist
Southwestern Region

FWS/ksw

Enclosure: Inspection Report

cc: Region
Central
Chron
Allegheny County (2)



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

BUREAU OF WASTE MANAGEMENT
Highland Building
121 South Highland Avenue
Pittsburgh, Pennsylvania 15206-3988
(412) 645-7100 (answers 24 hrs.)

December 31, 1987

Union Switch & Signal/American Standard, Inc.
1789 Braddock Avenue
Swissvale, PA 15218

Attention: Marcel Tourdot, Manager
Safety, Security & Environment

RE: Closure of Union Switch & Signal
Interim Status Storage in Container Unit
EPA I.D. #PAD000001115
Swissvale Borough
Allegheny County

Dear Mr. Tourdot:

As a result of the closure certification submitted to the Department, an inspection of the facility was conducted on December 7, 1987. During this inspection, no further contamination was observed related to the storage facility. Therefore, the Department does not see any need for further action concerning the closure of the storage unit which resulted from termination of interim status at this facility.

If you have any further questions about this matter, please contact me.

Sincerely,

John A. Haluszczak
Hazardous Waste Coordinator
Bureau of Waste Management
Southwest Region

JAH/ld

cc: Chron
Fred Siekkinen
John Haluszczak